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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,710	06/10/2005	Christel Thea Jorgensen	10334.204-US	6943
25908 7590 10/15/2009 NOVOZYMES NORTH AMERICA, INC. 500 FIFTH AVENUE SUITE 1600 NEW YORK, NY 10110				
EXAMINER BADR, HAMID R				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
10/15/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Patents-US-NY@novozymes.com

### Office Action Summary

**Application No.**

10/538,710

**Applicant(s)**

JORGENSEN ET AL.

**Examiner**

HAMID R. BADR

**Art Unit**

1794

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 June 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 6, 8, 10 and 13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6, 8, 10 and 13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date 6/23/2009
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

Applicants' amendment/remarks filed on 6/23/2009 is acknowledged.

Claims 6, 8, 10, and 13 are being considered on the merits.

Applicants remarks appear to be persuasive. All previous rejections of record are overcome by applicant's amendment and arguments. New grounds of rejection are set forth below.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 6, 8, 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohta et al. (US 4,478,866; hereinafter R1) in view of Petersen et al. (2000, A rapid phospholipase D assay using zirconium precipitation of anionic substrate phospholipids; application to N-acylethanolamine formation in vitro; hereinafter R2).
3. R1 discloses that lysophosphatidic acid and its salts possess advantageous properties as emulsifiers for use in foodstuffs and in particular for making dough and for use in the production of farinaceous products. (Abstract).
4. R1 discloses the hydrolysis products of phosphatidyl choline, phosphatidyl ethanolamine, and other phospholipids of commercial lecithin. (col. 4, lines 1-50) In that

respect it appears that the phospholipase D as disclosed by R1 is not a specific lipase for certain phospholipids.

5. R1 discloses the effect of lisophosphatidic acid (LPA) on the quality of bread. (col. 7, lines 3-50).
6. R1 does not disclose N-acylphosphatidyl ethanolamine or N-acylysophosphatidyl ethanolamine specific phospholipase D.
7. R2 discloses an assay method for the detection of N-acylphosphatidyl ethanolamine (NAPE) specific phospholipase D. (Abstract).
8. R2 discloses that the action of this specific phospholipase D on NAPE is the formation of phosphatidic acid (PA). (page 1533, Fig. 1). Other techniques, such as thin-layer chromatography (TLC) and high-performance liquid chromatography (HPLC) as presently claimed, for the detection of hydrolysis products are also known in the art.
9. It is noted that a N-acylphosphatidyl ethanolamine specific lipolytic enzyme is being assayed and selected as presently claimed. It is also noted that N-acylphosphatidyl ethanolamine is a natural constituent of wheat flour. Therefore, it is obvious to assay and select a N-acylphosphatidyl ethanolamine specific lipolytic enzyme and incorporate it into wheat flour to cause the hydrolysis of the naturally occurring NAPE and the concomitant formation of phosphatidic acid which will function as a valuable emulsifier in the dough.
10. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to use phospholipase D for baking as taught by R1 and assay and select a NAPE specific phospholipase D as taught by R2. One would do so to cause a

selective hydrolysis of natural N-acylphosphatidyl ethanolamine in wheat flour and take advantage of the emulsifying properties of the resulting phosphatidic acid. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in assaying and selecting a NAPE specific phospholipase D to be used in baking bread.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R Badr  
Examiner  
Art Unit 1794

/Keith D. Hendricks/  
Supervisory Patent Examiner, Art Unit 1794